

In re Application of: Shlomo NAVARRO et al  
Serial No.: 10/816,861  
Filed: April 5, 2004  
Office Action Mailing Date: February 4, 2009

Examiner: Neil S. Levy  
Group Art Unit: 1615  
Attorney Docket: 25706

### **REMARKS**

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-60 are in this Application. Claims 13-48 and 50-60 have been withdrawn from consideration for being drawn to non-elected inventions. Claims 1-12 and 49 have been examined on the merits with a combination of *ar*-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue as the elected terpene species, paper as the elected substance species, and insect as the elected pest species. Claims 10-12 and 49 have been withdrawn from consideration for being drawn to non-elected species.

Claims 1-9 have been rejected under 35 U.S.C. § 102. Claims 1-9 have been rejected under 35 U.S.C. § 103. Claim 1 has been amended herewith. Claim 49 has been canceled herewith.

### **Amendments To The Claims**

#### ***35 U.S.C. § 102(b) Rejection (Nakamaru et al.)***

The Examiner has rejected claims 1-9 under 35 U.S.C. § 102(b), as being anticipated by Nakamaru et al., with evidence of Su et al. The Examiner's rejection is respectfully traversed. Claim 1 has been amended.

Specifically, the Examiner has stated that Nakamaru et al. teaches honeycomb paper which can be seen as packaging, and turmerone and alcohols, farnesol and nerolidol used on the paper.

Applicant believes that the honeycomb-like paper taught by Nakamaru et al. would not be considered by one of ordinary skill in the art to be the "packaging material" of the claimed invention, as the honeycomb-like paper lacks both mechanical strength and an ability to cover and shield a product being packaged, while preventing pests from penetrating the packaging, as taught by the instant application.

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Notwithstanding the above, and in order to expedite prosecution, Applicant has chosen to amend the claims so as to more clearly distinguish between the teachings of Nakamaru et al. and embodiments of the present invention.

Thus, claim 1 has been amended so as to recite "a combination of *ar*-turnerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue" as components of the recited pest control composition.

Nakamaru et al. do not teach or suggest a combination of *ar*-turnerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue, as also noted by the Examiner in the Office Action dated May 2, 2008.

Applicant therefore believes that claim 1, as well as claims 2-9 which depend directly or indirectly therefrom, are not anticipated by Nakamaru et al. and are therefore allowable.

***35 U.S.C. § 103(a) Rejection (Whalon et al. in view of Antony and Su et al.)***

The Examiner has rejected claims 1-9 under 35 U.S.C. § 103(a) as being unpatentable over Whalon et al. in view of Antony and Su et al. The Examiner's rejection is respectfully traversed. Claim 1 has been amended.

As discussed in Applicant's arguments filed October 31, 2008, in response to the Office Action dated May 2, 2008, none of Whalon et al., Antony and Su et al. teach or even remotely suggest that either sesquiterpene alcohols or turmeric oleoresin solid residue are suitable for use in pest control, and that therefore, one of skill in the art would not be motivated by Whalon et al., Su et al. or Antony, either alone or in combination, to prepare a pest control composition comprising at least 10 % by weight of sesquiterpene alcohol and/or turmeric oleoresin solid residue.

Applicant wishes to note that the Examiner has not provided in the current Office Action either an explanation as to why the claims are unpatentable over Whalon et al. in view of Antony and Su et al., or any clear response to the above arguments. Applicant therefore strongly believes that it would be inappropriate for the Examiner to issue a Final Office Action based on the rejection over Whalon et al. in

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view of Antony and Su et al., as Applicant has not been given the opportunity to respond with optimal arguments and/or amendments.

Notwithstanding the above, Applicant wishes to note that claim 1 has been amended such that the pest control composition recited therein comprises a combination of *ar*-turmerone, a sesquiterpene alcohol and a turmeric oleoresin solid residue, as discussed hereinabove. Thus, the claimed invention pertains to a pest control composition which comprises the aforementioned three components, and which comprises at least 10 % sesquiterpene alcohol by weight.

As discussed hereinabove, none of Whalon et al., Antony and Su et al. teach or suggest a pest control composition comprising at least 10 % sesquiterpene alcohol by weight.

Moreover, as discussed hereinabove, none of the aforementioned documents teach or suggest the use of either sesquiterpene alcohol or turmeric oleoresin solid residue in a pest control composition, let alone in a pest control composition incorporated in or on a packaging material.

It is further pointed out that, as shown and discussed in the instant application, the present inventors have surprisingly uncovered that sesquiterpene alcohol exhibits potent insect repellent as well as antifeedant effects (see, for example, page 32, lines 17-23 and Table 5, therein), that turmeric oleoresin solid residue exhibits potent antifeedant effects (see, for example, page 35, Table 8, therein), and that the repellent effect of sesquiterpene alcohol is more potent than that of *ar*-turmerone (see, for example, page 33, lines 3-8, therein). Furthermore, the antifeedant effects of sesquiterpene alcohol and/or turmeric oleoresin solid residue can complement the repellent effect of *ar*-turmerone, as *ar*-turmerone lacks an antifeedant effect (see, for example, page 31, Table 5, therein).

As none of the aforementioned documents suggests the use of either sesquiterpene alcohol or turmeric oleoresin solid residue in a pest control composition, it is clear that a complementary combination having both repellent and antifeedant effects is not even remotely suggested therein.

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Applicant strongly believes that the mere presence of a compound or substance (e.g., sesquiterpene alcohol, TOSR) in turmeric oil would not motivate one of skill in the art to incorporate such a compound or substance in a pest control composition, let alone at a concentration of at least 10 % by weight, merely because turmeric oil has been reported to have insect repellant activity. After all, turmeric oil comprises an extremely large number of compounds (see, for example, Tables 2-4 on pages 28-30 of the instant application), and the cited art teaches that turnerone is responsible for the active properties of turmeric oil (see, for example, column 5, lines 20-21, of Whalon et al., and Abstract of Su et al.), thereby teaching away from the use of other turmeric compounds.

Hence, it is clear that one of skill in the art would not arrive at the claimed invention by any combination of Whalon et al., Antony and Su et al.

Applicant therefore believes that claim 1, as well as claims 2-9 which depend directly or indirectly therefrom, are not rendered obvious over Whalon et al. in view of Antony and Su et al., and are therefore allowable.

***35 U.S.C. § 102(b)/103(a) Rejection (Navarro et al.)***

The Examiner has stated that claims 1-9 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Navarro et al. (i.e., WO 00/00022)

Specifically, the Examiner has stated that turmeric extracts are taught therein, inclusive of all the instantly claimed components and applied to packaging materials.

As discussed hereinabove, the claimed invention includes a pest control composition comprising at least 10 % sesquiterpene alcohol by weight.

As discussed in the instant application, such a composition may be obtained, for example, by increasing the concentration of sesquiterpene alcohol in turmeric oil (e.g., by fractionation). See, for example, page 29, line 5, to page 30, line 10 (including Table 4), of the instant application.

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In sharp contrast, Navarro et al. teach the use of a crude turmeric extract, which is not fractionated or otherwise treated in order to increase the concentration of sesquiterpene alcohol (see, for example, final paragraph of page 8 of Navarro et al.). Such an extract therefore have lower concentrations of sesquiterpene alcohol than does the claimed composition, as sesquiterpene alcohols represent only a very small fraction of the volume of crude turmeric extracts. Thus, for example, none of the identified major components of turmeric oil are sesquiterpene alcohols (see, for example, page 28, line 3, to page 29, line 4 (particularly Tables 2 and 3), of the instant application). Likewise, as discussed in the instant application, the turmeric oil fraction richest in sesquiterpene alcohols (F-II), representing only 10 % of the volume of turmeric oil, contains no more than 20 % sesquiterpene alcohol (see, for example, page 32, line 17, to page 33, line 8, therein).

Moreover, Navarro et al. does not mention of sesquiterpene alcohol, let alone teach that sesquiterpene alcohols are suitable for use as an active ingredient in a pest control composition. Hence, one of skill in the art would have no motivation to increase the concentration of sesquiterpene alcohol in a turmeric extract to at least 10 % by weight.

As discussed hereinabove, the claimed i pest control composition exhibits both insect repellant and antifeedant activities. The use of pest control compositions comprising fractions comprising high concentrations of sesquiterpene alcohols in combination with *ar*-turmerone and TOSR allows adjusting the ratio of the amounts of each component in order to provide an optimal effect. Such an ability to adjust the ratio of the amounts of each component is particularly beneficial because, as shown in the instant application and discussed hereinabove, compounds with strong antifeedant effects may have weak repellency effects, whereas compounds with strong repellency effects may have weak antifeedant effects. The optimal balance between repellency and antifeedant effects will depend on the particular use of the pest control composition, and can be readily determined by one skilled in the art.

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In sharp contrast, Navarro et al. neither teaches nor suggests such a complementary use of different active ingredients with different activities in a pest control composition, and the use of turmeric extract as disclosed by Navarro et al. does not provide the option of controlling the balance of these activities.

Applicant therefore believes that claim 1, as well as claims 2-9 which depend directly or indirectly therefrom, are neither anticipated by nor rendered obvious over Navarro et al., and are therefore allowable.

***Additional amendments***

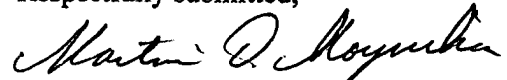
Claim 49 has been canceled without prejudice.

***Examination of Generic and Non-Elected Claims***

In view of the amendments made to the claims and the arguments recited herein it is believed that the claims are allowable with respect to the elected species and hence examination of claims 1-12 in their generic context and with respect to all the species recited therein is respectfully requested.

In view of the above amendments and remarks it is respectfully submitted that amended claim 1 and claims 2-9 are now in condition for allowance. A prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,



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**Enclosures:**

- Petition for Extension (One Month)